

## Electrical Conductivity of Metals

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The table originally appeared in *AMM's annual Metal Statistics* book.

<b>Metal</b>	<b>Relative Conductivity*</b>	<b>Temperature Coefficient of Resistance**</b>	<b>Tensile Strength (lbs./sq. in.)</b>	<b>Composition of Earth's Crust (% by Weight)</b>
<i>Aluminum (2S; pure)</i>	59	0.0039	30,000	8.1
<i>Aluminum (alloys):</i>				
• <i>Soft-annealed</i>	45-50	—	—	—
• <i>Heat-treated</i>	30-45	—	—	—
<i>Brass</i>	28	0.002-0.007	70,000	—
<i>Cadmium</i>	19	0.0038	—	.0001
<i>Chromium</i>	55	—	—	.02
<i>Climax</i>	1.83	0.0007	150,000	—
<i>Cobalt</i>	16.3	0.0033	—	.002
<i>Constantin</i>	3.24	0.00001	120,000	—
<i>Copper:</i>				
<i>Hard drawn</i>	89.5	0.00382	60,000	—
• <i>Annealed</i>	100	0.00393	30,000	.007
<i>Everdur</i>	6	—	—	—
<i>Gold</i>	65	0.0034	20,000	.0000005
<i>Iron:</i>				
• <i>Pure</i>	17.7	0.005	—	5.0
• <i>Cast</i>	2-12	—	—	—
• <i>Wrought</i>	11.4	—	—	—
<i>Lead</i>	7	0.0039	3,000	.002
<i>Magnesium</i>	—	0.004	33,000	2.1
<i>Manganin</i>	3.7	0.00001	150,000	—
<i>Mercury</i>	1.66	0.00089	0	.00005
<i>Molybdenum</i>	33.2	0.004	—	.001
<i>Monel</i>	4	0.002	160,000	—
<i>Nichrome</i>	1.45	0.0004	150,000	—
<i>Nickel</i>	12-16	0.006	120,000	.008
<i>Nickel silver (18%)</i>	5.3	0.00014	150,000	—
<i>Phosphor bronze</i>	36	0.0018	25,000	—
<i>Platinum</i>	15	0.003	55,000	.0000005
<i>Silver</i>	106	0.0038	42,000	.00001
<i>Steel</i>	3-15	0.004-0.005	42,000-230,000	—
<i>Tin</i>	13	0.0042	4,000	.004
<i>Titanium</i>	5	—	50,000	.4
<i>Titanium, 6A14V</i>	5	—	130,000	—
<i>Tungsten</i>	28.9	0.0045	500,000	.007
<i>Zinc</i>	28.2	0.0037	10,000	.01

\* At 20° Celsius, based on copper as 100.

\*\* Per degree C at 20° C.

*Note: The conductivity of various metals is subject to variation according to processing and alloy composition.*